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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/467,983	02/18/2000	TSUYOSHI TAKEGAMI	862.3180	3090

5514 7590 10/09/2003

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EXAMINER

SANTIAGO, MARICELI

ART UNIT PAPER NUMBER

2879

DATE MAILED: 10/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/467,983

Applicant(s)

TAKEGAMI, TSUYOSHI

Examiner

Mariceli Santiago

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7. 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3 and 5-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (EP 0 726 591 A1).

Regarding claims 1 and 3, Suzuki '591 discloses a method of manufacturing an electron source comprising a step of forming, on a substrate, a plurality of row wirings, a plurality of column wirings, and a plurality of pairs of conductive films each having an electron-emitting portion that are arranged in a matrix by the pluralities of row and column wirings, each pair of conductive films being formed through a gap, a first voltage application step of selecting a row wiring among the plurality of row wirings in the presence of an activation substance source (Column 19, lines 39-45), and applying a substantially same constant voltage to each of a plurality of pairs of conductive films connected to the selected row wiring, and a second voltage application step of applying a predetermined voltage (ground voltage) to at least specific pairs of conductive films among a plurality of pairs of conductive films connected to unselected row wirings (Column 19, lines 46-57).

Regarding claim 5, Suzuki '591 discloses a method further comprising a step of detecting currents flowing through the column wirings (Column 15, lines 46-59).

Regarding claim 6, Suzuki '591 discloses wherein the step of detecting currents comprises a step of detecting currents flowing through the column wirings in the first voltage application step (Column 15, lines 46-59).

Regarding claim 7, Suzuki '591 discloses a method further comprising a step of detecting currents flowing through the column wirings and the row wirings (Column 15, lines 46-59).

Regarding claim 8, Suzuki '591 discloses wherein the step of detecting currents comprises a step of detecting currents flowing through the row wirings and the column wirings in the first voltage application step (Column 15, lines 46-59).

Regarding claims 9 and 10, Suzuki '591 discloses a method wherein the activation substance source contains a substance which is deposited on the conductive film to increase an emission current, the activation substance source being a carbon compound (Column 15, lines 24-28).

Regarding claim 11, Suzuki '591 discloses a method wherein the first voltage application step comprises sequentially selecting each of the plurality of row wirings and applying the voltage (Column 20, lines 8-19).

Regarding claim 12, Suzuki '591 discloses a method wherein the second voltage application step comprises applying a voltage to all the plurality of pairs of conductive films connected to the unselected row wirings (ground, Column 19, lines 46-57).

Regarding claim 13, Suzuki discloses a method of manufacturing an image display apparatus having an electron source having, on a substrate a plurality of row wirings, a plurality of column wirings, and a plurality of electron-emitting devices arranged in a matrix by the pluralities of row and column wirings, and a fluorescent film irradiated with electrons from the electron source.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (EP 0 726 591 A1) in view of Suzuki et al. (EP 0729 168 A2).

Regarding claims 2 and 4, Suzuki '591 discloses a method of manufacturing an electron source comprising a step of forming, on a substrate, a plurality of row wirings, a plurality of column wirings, and a plurality of pairs of conductive films each having an electron-emitting portion that are arranged in a matrix by the pluralities of row and column wirings, each pair of conductive films being formed through a gap, a first voltage application step of selecting a row wiring among the plurality of row wirings in the presence of an activation substance source, and a second voltage application step of applying a predetermined voltage to at least specific pairs of conductive films among a plurality of pairs of conductive films connected to unselected row wirings. Suzuki '591 is silent in regards to the limitation of applying, to the plurality of column wirings, a voltage set to compensate for influence of a voltage drop caused by the selected row wiring. However, Suzuki '168 discloses a method of manufacturing an electron source comprising the voltage driving arrangement of a first voltage application step of selecting a row wiring among the plurality of row wirings, and applying, to the plurality of column wirings, a voltage set to compensate for influence of a voltage drop caused by the selected row wiring and a second voltage application step of applying a predetermined voltage to at least specific pairs of conductive films among a plurality of pairs of conductive films connected to unselected row wirings so that the unselected surface conduction electron-emitting devices do not attain a

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floating state (unstable potential) and the voltage applied to the device is not diverted to the matrix wiring and deterioration of the electron emission portions is prevented (Page 16, lines 44-58 and Page 17, lines 1-2). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the voltage driving arrangement disclosed by Suzuki '168 in the method of Suzuki '591 so that the unselected surface conduction electron-emitting devices do not attain a floating state (unstable potential) and the voltage applied to the device is not diverted to the matrix wiring and deterioration of the electron emission portions is prevented.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariceli Santiago whose telephone number is (703) 305-1083. The examiner can normally be reached on Monday-Friday from 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

msg 9/30/03
Mariceli Santiago
Patent Examiner
Art Unit 2879

Kenneth J. Ramsey
Kenneth J. Ramsey
Primary Examiner